UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Oliff & Berridge PLC
P O Box 19928
Alexandria, VA   22320

EXAMINER
WU, JINGGE

ART UNIT	PAPER NUMBER
2623	

DATE MAILED: 09/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

	Application No.	Applicant(s)
Office Action Summary	09/487,583	BLOOMBERG ET AL.
	Examiner	Art Unit	
	Jingge Wu	2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 July 2003* .

2a)☒ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) *1-24,26-31 and 39-67* is/are pending in the application.

    4a) Of the above claim(s) *4-22,28,29,40-48,54-59 and 61-67* is/are withdrawn from consideration.

5)☐ Claim(s) *60* is/are allowed.

6)☐ Claim(s) *1-3,23,24,27,31 and 39* is/are rejected.

7)☐ Claim(s) *26, 49-53* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____ .

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4)☐ Interview Summary (PTO-413) Paper No(s). _____ .
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: .

Response to Amendment

1.   Applicants' responses to the last Office Action, filed June 19 and July 16, 2003 has been entered and made of record.

2.   The rejection and objection of claims 25 and 32-38 are rendered moot by the cancellation by the Applicant.

Remarks

3.   Applicant's arguments with respect to claims 1-67 have been fully considered, but they are not persuasive.

a. Applicant argues that the restriction/election requirements should be withdrawn because 1) the restriction/election of species are substantial similar; 2) the search and examination of the entire application could be made without serious burden; and 3) the applicant's procedural and substantive due process right under APA and the MPEP.

Examiner disagrees. Although Applicant listed some steps in the alternative inventions are same, the key is what steps of the inventions are different and whether the differences of the steps are independent. In the instant case, for example, species III has the limitations of estimate median boundary pixels (step S2520) and determine approximate dependency based on connectivity for interior and exterior boundary pixels (S2560), classified in 345/611, species IV has the limitations of set first and second global values (and separately assign a first global grayscale value to interior boundary pixels (S2840 and S2850) and a second global gray scale value to exterior pixels, classified in 382/173, species V has the limitation of filtering and down sampling the

filtered data to produce high resolution data (S3120 and S3130), classified in 345/613.

Those steps are not required for other embodiments or inventions. Furthermore, it is

that those distinctive and independent limitations (Applicant also admitted in the

specification) are the base to make the species restriction. Finally, Applicant's argument

(1) is not logical because Applicant only lists some steps may be same in the species

and fails to discuss what is different in those species, then conclude that those species

are substantial similar. However, Examiner agrees that species I and II can be

prosecuted together with species III because the steps in the species I and II are

included in the steps of species III.

In both paper#5 and paper#7, Applicant asserts that there is no serious burden

for the Examiner but fails to support his assertion but does not have any support for his

assertion. Examiner identifies the example of different classifications for some of the

species to illustrate the burden of the Examiner. For example, for searching species V,

Examiner must search 358/462-466 for the limitations of binary image.

Regarding the applicant's procedural and substantive due process right under

APA and the MPEP, in paper# 4, "Applicant is advised that a reply to this requirement

must include an identification of the species that is elected consonant with this

requirement, and **a listing of all claims readable thereon, including any claims

subsequently added.** An argument that a claim is allowable or that all claims are

generic is considered nonresponsive unless accompanied by an election.

Should applicant traverse on the ground that the species are not patentably

distinct, applicant should **submit evidence or identify such evidence** now of record

showing the species to be obvious variants or clearly admit on the record that this is the

case. In either instance, if the examiner finds one of the inventions unpatentable over

the prior art, the evidence or admission may be used in a rejection under 35 U.S.C.

103(a) of the other invention." However, Applicant failed to submit evidence or identify

such evidence. Thus, no Applicant's procedural and substantive due process right are

violated.

Newly submitted claim 61-67 directed to an invention that is independent or

distinct from the invention originally claimed for the following reasons: the limitations

(grayscale tokens) of claims 61-67 are not contained in the elected species IV.

Since applicant has received an action on the merits for the originally presented

invention, this invention has been constructively elected by original presentation for

prosecution on the merits. Accordingly, claim 60, 62-67 are withdrawn from

consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and

MPEP § 821.03.

Accordingly, claims 1-2, 23-24, 26-27, 30-31, 39, 49-53, 60 are presented for

prosecution. Claims 62-67 are withdrawn.

b. Applicant further argues that 1) Jozefowski fails to teach separating

interior/exterior boundary pixels because Jozefowski views the pixels as one

dimensional array 2) Jozefowski fails to teach separating boundary and non-boundary

pixels because Jozefowski takes a predetermined number of sequential pixel number

values in the frame buffer, uses the individual intensity values of the predetermined

number of consecutive pixels to create a single low resolution pixel value---- completely

ignoring, whether or not the pixels retrieved from the frame buffer are boundary pixels or non-boundary pixels; 3) Jozefowski has the input means. Thus there is no need for Smith.

However, in response to applicant's argument, Examiner would like to point out that claim language is given its broadest reasonable interpretation. The specification is not measure of invention. Therefore, limitations contained therein can not be read into the claims for the purpose of avoiding the prior art. Ir re Sporck, 55CCPA 743, 386 F. 2d 924, 155 USPQ 687 (1968). In the instant case, Jozefowski clearly teaches a similar anti-aliasing system to that of applicant. In addition, Jozefowski separates interior/exterior pixels by giving different classifications 1-4, (fig. 2b-c). Even though Jozefowski did not call them interior/exterior pixels, figs. 2b-c clearly shows that the pixels with different classification on the boundary. Moreover, in the specification (page 14 lines 10-13), Applicant also defines the interior/exterior boundary pixels in similar way by setting two status On/Off. Finally, Examiner strongly disagrees with Applicant's argument that Jozefowski can not identify/separate interior/exterior boundary pixels in one dimensional array pixels. It is well known in the art to separate boundary pixels and non-boundary pixels by setting the pixels for different status/classification. Once the setting is done, one can easily separate the pixels in one direction, either horizontal or vertical.

Regarding to argument 2, Jozefowski clearly teaches separating boundary and non-boundary pixels, which is showing in fig. 5A and 6A, pixels having "1" are boundary pixels and pixels having "0" are not. The transparency values are calculated according to the position of the pixels and thus, the pixel values rendered in boundary/edge will not have aliasing effects.

Regarding to Smith, Jozefowski mentions image input means (could be camera,
disk, CD, etc) but does not expressly mention scanner. Thus, Examiner cited Smith to
show that it is well known in the art.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all
obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as
> set forth in section 102 of this title, if the differences between the subject matter sought to be patented
> and the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

5.   Claims 1-3, 23-24, 27, 30-31, and 39 are rejected under 35 U.S.C. 103(a) as
being unpatentable over GB 2247596 to Jozefowski in view of EP 0590923 to Smith (a
reference of PTO 1449).

As to claim 1, Jozefowski discloses an image rendering method comprising:

an encoder (run-length coding) that encodes the image data to provide encoded
image data including anti-aliased grayscale text or line art that includes an identification
of boundary pixels and associated pixels values (Figs. 2B-2C, page 3-4, 7, 10-11, 19-
21), wherein the encoder separate the boundary pixels into interior boundary pixels and
exterior boundary pixels (Figs, 2b and 2c, page 10-11); and

a decoder that is coupled to the encoder and decodes the encoded imag data to
provide decompressed data including anti-aliased text or line art data and renders the
decompressed data (Figs. 1B and 2B, page 3-4, 7, 19-21).

Jozefowski does not explicitly mention the scanner that is well known in the art
but may use an video camera (page 14).

Smith, in an analogous environment, discloses a scanner scans an image and produces image data (Fig. 5 element 50) and also encoding the anti-liased text in encoded data.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the scanner in the Jozefowski' system in order to easily create an input image to be manipulated.

As to claim 2, the combination and Jozefowski and Smith does not explicitly mention MRC image architecture.

Examiner takes Official Notice that this feature is notoriously well known in the art.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the MRC in the Jozefowski' system in order to process the image with mixed line art and graphic content.

As to claim 3, Jozefowski further discloses the memory coupled to the encoder and decoder and that stores encoded image data, the memory being coupled to the decoder (page 27).

As to claim 30, Jozefowski discloses an image rendering method comprising:

generating an anti-aliased grayscale version of text or line art that includes determining pixel values of boundary pixels in the anti-aliased grayscale version of text or line art (Figs. 5A-6B, page 24-26);

separating the pixels into boundary pixels and non-boundary pixels (Figs. 5A-6B, page 24-26, see also argument); and

rendering the image using the determined pixels values (Figs. 5A-6B, page 24-26);

Jozefowski does not explicitly mention the scanner that is well known in the art but may use an video camera (page 14).

Smith, in an analogous environment, discloses a scanner scans an image including line art or text and produces image data (Fig. 5 element 50) and also encoding the anti-liased text in encoded data.

An analogous argument to combine Jozefowski and Smith is addressed with regard to claim 1.

As to claim 23, Jozefowski further discloses high resolution binary data is produced by super sampling (page 19-20) and separates the boundary pixels into interior and exterior pixels (Fig. 2c, page 5-7 and 20-22, note that in Fig. 2c sub-pixel with code 1 is exterior pixel and sub-pixel with code 4 is interior pixel).

As to claim 24, Jozefowski further discloses determining the a first global grayscale value (4) corresponding to the interior boundary pixels and second global grayscale value (1) corresponding to the exterior boundary pixels and storing the pixle data including the global values (Fig. 2c, page 5-7 and 20-22, note that in Fig. 2c sub-pixel with code 1 is exterior pixel and sub-pixel with code 4 is interior pixel and the values are stored for the decoding).

As to claim 27, Jozefowski further discloses the decoder renders the image using the interior and exterior pixel values and the high binary resolution data (Fig. 2c, page 5-7 and 20-22).

As to claim 31, Jozefowski further discloses individually derived values of grayscale boundary pixels using the high resolution data and storing the derived values of the boundary pixels (Fig. 2c, page 5-7 and 20-22), and other limitations are addressed with regard to claim 23.

As to claim 39, Jozefowski further discloses storing a full image mask corresponding to the scanned image data (Figs. 5A and 6A).

Allowable Subject Matter

6.   Claims 26 and 49 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including **all of the limitations of the base claim and any intervening claims.**

Claims 50-53, depend from claim 49 are, therefore, objected.

Claims 60 is allowed.

Conclusion

7.   Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

Contact Information

8.   Any inquiry concerning this communication or earlier communications should be directed to Jingge Wu whose telephone number is (703) 308-9588. He can normally be reached Monday through Thursday from 8:00 am to 5:30 pm. The examiner can be also reached on second alternate Fridays.

Any inquiry of a general nature or relating to the status of this application should be directed to TC customer service whose telephone number is (703) 306-0377.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Amelia Au, can be reached at (703) 308-6604.

The Working Group Fax number is (703) 872-9314.

Jingge Wu
Primary Patent Examiner